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Effects of yoga exercise in the postpartum period on physical and psychological health

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ABSTRACT

Women may experience many physical and psychological problems in the postpartum period. She prefers non-pharmacological interventions in solving problems, thinking that pharmacological interventions may harm her and her babies' health. Since physical and psychological problems affect each other, it is important to provide holistic interventions to solve problems. Yoga stands out as an adaptable, comfortable and accessible method that can provide women with a holistic physical, mental and spiritual recovery in the postpartum period. Increased blood flow and strengthening of the muscles with yoga in the postpartum period improves abdominal strength, muscle endurance, coordination and also provides flexibility and balance. Blood flow to the pelvic floor and strengthening of the muscles accelerate the healing and involution of the perineum. Exercises stimulate the hormones oxytocin and prolactin, increase breast milk production and reduce breastfeeding problems. In addition to its physical effects, such as reducing postpartum weight by increasing basal metabolic rate, yoga provides psychological healing and increases bonding. Yoga is in the category of moderate-intensity exercises recommended in the postpartum period and can be practiced safely by women. This review aims to guide health professionals and mothers by examining the benefits of yoga practices started in the postpartum period. In addition, it aims to evaluate existing studies on yoga practices in the postpartum period and to contribute to the literature by compiling information.

Keywords: Postpartum period, postpartum care, postpartum yoga

INTRODUCTION

The postpartum period is a process that begins with the delivery of the placenta and continues for approximately 6 weeks.[1,2] In this special period when a new member joins the life of the woman and her family, many changes occur in the mother that require anatomical, physical, psychological and social adaptation.[2,3] In the postpartum period, women face many problems including decreased pelvic floor muscle strength, depression, stress, anxiety, sleep quality, fatigue, pain, urinary incontinence and sexual dysfunction. When these problems are not intervened, the complaints may persist for up to one year and may even impair the woman's quality of life for a lifetime.[1] Women prefer nonpharmacological methods in solving the problems they experience because of the side effects of pharmacological interventions and the thought that they may harm themselves or the baby.[2] In the postpartum period, women prefer many methods such as education, traditional and complementary alternative medicine treatment methods, meditation and exercise.[1,4]

Exercise is one of the non-pharmacologic interventions frequently recommended as part of maternal care in the postpartum period. In the postpartum period, exercise is recommended 4-6 weeks after vaginal delivery, 6-8 weeks after cesarean delivery and 150 minutes per week at moderate intensity.[5] Many types of exercise such as walking, light brisk running, pilates and yoga can be practiced during this period. Since there is a bidirectional relationship between physical and mental problems in the postpartum period, it is important to include non-pharmacological interventions such as yoga that can intervene simultaneously in both physical and mental health in health promotion.[6]

Yoga in the postpartum period is a mind-body based practice that can be adapted to the living conditions, physical and psychological needs of women. By focusing on the body and breath, yoga promotes muscular strengthening and psychological well-being.[7] When the literature is examined, in addition to the positive effects of yoga practice during pregnancy on the birth process, such as low cesarean section rates[8], shortened labor duration[9] and reduced labor pain[10], it also provides many benefits on the postpartum period, such as rapid recovery[8] and reduced risk of depression.[11] The findings of studies conducted during pregnancy show that yoga practiced during this period positively affects the birth process

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and postpartum recovery. However, the effects of yoga on women's physical and psychological health in the postpartum period need to be examined in more detail. In this context, it is observed that studies on the benefits of yoga practices in the postpartum period have increased in the literature. This review aims to comprehensively evaluate the effects of yoga on women's physical and psychological health in the postpartum period. Within the scope of the review, studies conducted between 2015 and 2024 and conducted with women who had recently started practicing yoga in the postpartum period were examined; studies conducted with women who started practicing yoga during pregnancy were not included in the evaluation.

YOGA

Yoga originates from Indian culture and is a mind-body based complementary medicine practice.[2] Yoga, derived from the Sankskrit root "yuj", means "to unite, to bring together and wholeness". The unity referred to is the unity of mind-body-spirit.[12] Yoga, one of the oldest traditions in the world, has crossed the borders of India and started to be adopted in Western culture. Yoga, which has increased in popularity in recent years, is one of the most widely used complementary and alternative medicine treatments in the United States.[13] Yoga has become an increasingly popular practice, utilizing its health-enhancing properties in immunological, neuromuscular, psychological and pain conditions.[14] There are many types of yoga such as bhakti, raja, vinyasa, jnana, asthanga and hatha. Yoga practices in the postpartum period are based on Hatha yoga.[9]

The fact that yoga postures (asana) have modifications and variations suitable for the needs of the person allows them to be adapted to the postpartum period.[12] At the same time, it is a convenient method for women in the postpartum period as it is a convenient, comfortable and accessible method that does not require high costs.[15]

The success of interventions involving physical activity depends on four factors: how often you exercise, how hard you exercise, how long you exercise, and the type of exercise you choose.[15] The centers for disease control and prevention (CDC) recommends at least 150 minutes of moderate-intensity walking, water aerobics, cycling and some forms of yoga per week for women in the postpartum period.[17] The UK Chief Medical Officer's emphasizes that there are many benefits for women up to 12 months postpartum, including at least 150 minutes a week of moderate-intensity activity, including yoga. Their recommendations include starting pelvic floor exercises as soon as possible and continuing them daily.[18] The American College of Obstetricians and Gynecologists (ACOG) recommends at least 150 minutes of moderate-intensity aerobic activity per week. Muscle strengthening activities, including yoga, are recommended at least 2 days a week in addition to your aerobic activity.[19]

EFFECTS OF YOGA EXERCISE ON PHYSICAL HEALTH IN THE POSTPARTUM PERIOD

When we look at the physical benefits of yoga, muscle stretching occurs through asanas performed standing, sitting, supine and prone. It increases muscle strength and coordination. In the postpartum period, yoga is practiced to improve the woman's abdominal strength, muscular endurance, coordination and also to improve flexibility and balance.[5]

During pregnancy and the postpartum period, women become prone to a sedentary lifestyle. During childbirth, loss of strength in the pelvic floor may occur. In addition to urinary incontinence and sexual dysfunction, many physiological problems such as diastasis recti abdominis due to weakness in abdominal muscles arise. Yoga practiced in the postpartum period increases blood flow to the muscles and strengthens them.[5] Strengthening the pelvic floor and abdominal muscles allows the perineum to heal, accelerate the involution process and improve the quality of life of the mother.[3,20]

Breastfeeding and breast problems, back pain and weight problems are among the other ailments seen in the postpartum period. By stimulating the hormones oxytocin and prolactin with yoga, breastfeeding problems are reduced and pain is relieved by providing spinal mobility. However, yoga increases basal metabolic rate and helps to reduce postpartum weight, body fat percentage and fat mass.[3,5]

As a result of the literature review, the effects of yoga on physical health in the postpartum period were examined under 3 titles (effects on uterine involution, abdominal muscles, pelvic floor and breastfeeding).

Effects of Yoga on Uterine Involution

Postpartum hemorrhage is the leading cause of maternal mortality. Postpartum hemorrhage, especially in the first days, is the cause of more than half of all maternal deaths. The causes of postpartum hemorrhage are tonus (uterine subinvolution), tissue (placental retention), trauma (vaginal and cervical lacerations) and thrombin. Failure to maintain uterine tone, especially in the first hours postpartum, is the major cause of bleeding. Physical activities can prevent uterine subinvolution by contracting uterine muscles. As long as the stimulation continues with exercise, oxytocin continues to be produced by the pituitary. With the circulation, oxytocin is transported to the alveoli and causes myoepithelial cells to contract, thus making the process of involution more rapid.[7,21] In a quasi-experimental study by Anggraeni et al.[7] examining the effect of yoga on uterine involution in the postpartum period, women were divided into yoga (n=19) and general postpartum exercise group (n=38). Both groups were practiced for 30 minutes every day for 7 days postpartum. As a result of the study, yoga was reported to be very effective in accelerating uterine involution with a Cohen effect size of 1.63.[7]

Effects of Yoga on Abdominal Muscles and Pelvic Floor

Diastasis recti abdominis (DRA) can be seen in 30-70% of women in the postpartum period as a result of increased intra-abdominal pressure caused by the growing uterus during pregnancy. Diastasis occurs when the white line connecting the rectus abdominis is stretched and thinned. If the rectus are not connected and persist for a long time, it causes problems such as displacement of organs, decreased spinal stability, hernia and obesity. DRA is also closely related to pelvic floor dysfunction and the development of chronic back pain.[22] Yoga increases blood flow to the muscles and strengthens them.[5] DRA can be prevented by providing recovery of abdominal muscles in the postpartum period with yoga.[3,20] The randomized control study by Li et al.[22] in China investigating the effects of a yoga exercise program on reducing the recti distance (IRD) included

mothers who gave birth vaginally between 1 and 12 weeks postpartum. The intervention group (n=63) received a two-stage yoga exercise program for 12 weeks, while the control group (n=53) did not receive any intervention. The results of the study were analyzed by measuring the inter-recti distance using high frequency ultrasound at 6 and 12 weeks. After a 12-week progressive yoga exercise intervention, supraumbilical, umbilical and sub-umbilical IRD were significantly reduced in the yoga exercise group.[22]

Due to the many physical, hormonal, psychological and social changes in the postpartum period, women are prone to weight gain. Especially in this period, there is an increase in body-mass index (BMI) due to weight gain due to weakening of abdominal muscles and sedentary life.[5,23] In a study conducted in India, it was reported that yoga practiced in the postpartum period decreased the BMI of women.[23]

The pelvic floor system consists of the pelvic floor muscles and connective tissue. The levator ani, the main pelvic floor muscle, covers the lower part of the pelvic floor. Supporting the organs in the pelvic cavity plays a role in maintaining the processes of excretion, sexuality, pregnancy and childbirth.[24] Coordinated contraction and relaxation of the levator ani muscle is important to support the pelvic floor organs. Changes in the function and position of organs can occur in situations that cause morphological changes in this area, such as pregnancy and childbirth. Pelvic floor dysfunctions may develop as a result of conditions that weaken the levator ani muscle hiatus (LAH) area, such as uterine enlargement during pregnancy, relaxin secretion, lacerations at birth and episiotomy. Pelvic floor dysfunctions include pelvic organ prolapse, pelvic pain, urinary/fecal incontinence, and sexual dysfunction. If symptoms are not addressed early postpartum, they may lead to irreversible decompensation. This situation negatively affects the quality of life of women physically and psychologically.[24] In a study examining the effects of yoga intervention applied to early postpartum women in China on the recovery of the LAH area, the yoga group practiced 60 minutes of yoga once a week from postpartum week 1 to week 12. Improvement in the LAH area was measured during pelvic ultrasound examination at 6 and 12 weeks during rest, contraction and valsalva maneuver. As a result of the study, there was no difference in the measurements at week 6, while a significant improvement was reported in the measurements made at week 12.[24] When the studies in the literature are examined, it is seen that yoga practiced in the postpartum period strengthens the abdominal and pelvic muscles.

Effects of Yoga on Breastfeeding

Yoga has many positive effects on breastfeeding women.[25] Yoga and meditation in the postpartum period play a role in maintaining hormonal balance. Yoga gives the body a sense of physical relaxation and the mind a sense of psychological relaxation, which improves a woman's thoughts about breastfeeding in a positive way and facilitates the release of the hormone endorphins. Thus, the pituitary is stimulated and oxytocin and prolactin are secreted.[15,26] In addition, asana and pranayama techniques that stimulate the muscles around the chest and in the breasts of lactating women are also important in increasing milk secretion.[15] In a study investigating the effect of yoga on breastfeeding self-efficacy and maternal attachment in primiparous women (n=124) in Turkey, it was reported that breastfeeding self-efficacy increased and maternal attachment improved in the intervention group (n=62).[27] In a single-group experimental study in Indonesia examining the effect of yoga on breast milk quantity, it was reported that breastfeeding women (n=30) with infants aged 1-6 months had an average increase of 110.97 ml (82.4 ml-195.17 ml) after 6 days of yoga practice.[15] The results of the studies show that yoga exercise has both physiological and psychological effects on breastfeeding.

THE EFFECTS OF YOGA EXERCISE ON PSYCHOLOGICAL HEALTH IN THE POSTPARTUM PERIOD

In addition to physical changes in the postpartum period, many psychological changes cause women to experience problems. The imposition of new roles and responsibilities with the transition to motherhood predisposes women to psychological problems.[4] Psychological changes in the postpartum period are not diagnosed because they are often neglected and ignored.[20] Postpartum psychological problems may start from pregnancy and may also be caused by the sudden and rapid decrease in placental estrogen and progesterone and the disruption in the pituitary-adrenal axis.[28] Various symptoms such as anxiety, maternal sadness, depression and psychosis can be observed.[13] Especially postpartum depression affects approximately 25% of women in this period.[9] Psychological problems experienced in the postpartum period may cause mild symptoms to severe side effects such as inability to care for the baby and even severe depression, psychosis and suicide.[13,29]

Anxiety and stress experienced by the woman may lead to increased incidence of perinatal complications in the newborn[30], decreased mother-infant attachment[28,30], and cognitive and psychosocial developmental problems for the infant.[6] Effective and feasible strategies are needed to improve the psychological health and well-being of the mother in the postpartum period.[31] Evidence-based interventions such as selective serotonin reuptake inhibitors (SSRIs) are known to be effective in postpartum anxiety and depression. However, in this period, women do not want to use drugs because of the possibility of transmission to the baby with breast milk during breastfeeding, side effects and stigmatization by the society[9] and turn to non-pharmacological alternative methods.[31,32]

Yoga is one of the recommended approaches to reduce psychological problems as well as physical problems.[28,31] In yoga practices, especially pranayama and meditation techniques are utilized to improve psychological health. Breath control with pranayama is effective in activating the parasympathetic system. In addition, breathing exercises and meditation increase the ability to concentrate.[12] Meditation is a type of mental practice designed to improve concentration and mindfulness.[5] When practiced together, yoga and meditation help to alleviate the effects of the fight-or-flight response by giving the body a chance to rest.[23] Yoga is effective in increasing serotonin, dopamine levels and endorphin release by helping to regulate the hypothalamic-pituitary-adrenal (HPA) axis, which plays a role in how people respond to stressors.[6] The hormones released reduce psychological problems. Yoga is a preventive method that prevents the development of psychological problems by providing mental well-being as well as improving existing problems.[28] In a randomized controlled trial by Buttner et al.[9] the effect of yoga on women with postpartum depression was examined. In the study, measurements were made at the 2nd, 4th, 6th and 8th weeks after the practice. It

was reported that 78% of the women in the yoga group had reduced depression symptoms, while 59% of the women in the control group had reduced depression symptoms.[9] In a randomized controlled study examining the effect of yoga on posttraumatic quality of life in women with 2-6 month old babies (yoga=80; control=80) in Turkey, it was reported that yoga improved psychological recovery and quality of life.[3] In a randomized controlled trial conducted in Egypt with women with moderate depression at least one month after childbirth, one group received antidepressant treatment (n=20) and the other group received antidepressant treatment and yoga (n=20). As a result of the study, it was reported that while there was a decrease in depression levels in both groups, the decrease was greater in the group in which antidepressants and yoga were used.[29] In a randomized controlled trial examining the effect of Dru yoga intervention in primiparous mothers, it was reported that there was a decrease in stress, negative affect and dysfunctional coping and an increase in problem-focused coping after the intervention.[4] When the studies in the literature are examined, it shows that yoga is a method that can be used in psychological problems experienced or may be experienced in the postpartum period.

YOGA IN THE POSTPARTUM PERIOD: STRATEGIES FOR INITIATION AND MAINTENANCE

In the postpartum period, yoga offers a holistic approach to improve the physical and psychological health of women.[6] Starting early[22], continuing consistently[27] and working with the guide[22] are important in maximizing the benefits of yoga practice. ACOG recommends starting exercise again as soon as possible postpartum if a healthy pregnancy results in vaginal delivery. A few days after delivery, if the woman feels ready, she can start yoga practices.[19] In the early weeks after vaginal delivery, a structured program that starts with simple yoga practices that will help the main muscle groups at low intensity and increases the intensity in the following weeks is recommended.[22,27] It is important to consult with the physician when it is safe to start exercise if cesarean delivery and complications developed as a result.[19]

Regular yoga practices will contribute significantly to both physical and psychological health.[27] The practice, which started as 20-30 minutes in the first lessons, can be increased up to 60 minutes in the future.[19] The CDC, UK Chief Medical Officer's and ACOG emphasize that there are many benefits for women to engage in moderate-intensity activity, including yoga for at least 150 minutes per week.[17-19] During yoga practices, mothers are advised to wear cool and loose-fitting clothes so that they can move comfortably. For breastfeeding women, it should be emphasized that they should breastfeed or express milk before the class. In addition, wearing bras with thick straps that will provide appropriate support to the breasts is important for comfort. In order to prevent fluid loss during the application, it is recommended to have water with them.[19] Practicing yoga with a health professional who is an expert in the postpartum period and yoga will maximize the benefits and minimize the risks by ensuring that it is done correctly and safely.[22]

CONCLUSION

Yoga practiced in the postpartum period has many physiological and psychological benefits. Yoga is a viable, acceptable and accessible complementary treatment option for women during this period. When the studies in the literature are examined, it is seen that the focus is on the psychological effects of yoga applied for the first time in the postpartum period; there are few studies examining its physiological effects. In this period, randomized controlled studies are needed to evaluate the physical and psychological benefits of yoga and to determine the standards that will ensure that appropriate effects are achieved. In addition, in order to benefit more from the positive effects of yoga practice, women should be initiated into yoga practices starting from the gestational period and studies should be conducted to examine the long-term postpartum effects of yoga started in this period and continued in the postpartum period.

ETHICAL DECLARATIONS

Referee Evaluation Process

Externally peer-reviewed.

Conflict of Interest Statement

The authors have no conflicts of interest to declare.

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Author Contributions

All of the authors declare that they have all participated in the design, execution, and analysis of the paper, and that they have approved the final version.

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